

**I claim :**

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1. A testing device for measuring torques, comprising a plurality of measuring heads, each of said measuring heads having a torque sensor and separate signal processing means for processing signals from said torque sensor to provide torque measuring data at a measuring head signal output, each of said signal processing means being located in the associated one of said measuring heads in close proximity with said torque sensor, said signal processing means of said plurality of measuring heads being calibrated to provide, at anyone of the measuring head outputs, the same torque measuring data, when the same torque is exerted the respective one of said measuring heads, the measuring head outputs of said plurality of measuring heads being applied directly, in parallel, to display or evaluation means.
2. A testing device as claimed in claim 1, wherein at least some of said measuring heads are different.
- 20 3. A testing device as claimed in claim 2, wherein at least some of said measuring heads have different measuring ranges.
4. A testing device as claimed in claim 1, wherein, in at least one of said measuring heads, said signal processing means comprise means for determining the maximum torque of a torque pulse exerted on said measuring head.
- 25 5. A testing device as claimed in claim 1, wherein said torque sensor provides analog output signals, and said signal processing means comprise A/D-converter means for converting said analog signals into digital signals.
- 30 6. A testing device as claimed in claim 5, wherein said signal processing means further comprise means for linearizing and calibrating said digital signals from said A/D-converter to provide said torque measuring data.

7. A testing device as claimed in claim 5, and further comprising means for wireless transmission of said torque measuring data appearing at said measuring head output to said display or evaluation means.

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8. A testing device as claimed in claim 1, wherein at least one of said measuring heads forms part of a torque wrench.

9. A testing device as claimed in claim 1, wherein

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at least one of said measuring heads comprises a stationary housing, said torque sensor comprising an outer annular body fixedly retained in said housing, an inner annular body connected with said outer annular body through webs, a driving part permitting exerting of a torque thereon and attached to said inner annular body, and measuring pick-up means responding to deformation of said webs under the action of said torque,

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said signal processing means comprise a printed circuit board, on which components of said signal processing means are mounted, said printed circuit board having a central aperture therethrough, said printed circuit board being arranged in a shallow cavity within said outer annular body and above said inner annular body and said webs and being attached to said inner annular body, and

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said driving part extends through said central aperture of said printed circuit board.

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